

We claim:

1. A medical electrical lead comprising:
an elongated insulative lead body having a tissue-contacting
surface, a proximal end, and a distal end;
5 an elongated conductor having a proximal end and a distal end,
mounted within the insulative lead body; and
an electrode coupled to the distal end of the electrical conductor
for making electrical contact with bodily tissue;
wherein the tissue-contacting surface of the insulative lead body
10 comprises a polymer in intimate contact with a steroidal anti-
inflammatory agent.
2. The medical electrical lead of claim 1 wherein the polymer is
selected from the group of polyurethanes, silicones, polyamides,
15 polyimides, polycarbonates, polyethers, polyesters, polyvinyl aromatics,
polytetrafluoroethylenes, polyolefins, acrylic polymers or copolymers,
vinyl halide polymers or copolymers, polyvinyl ethers, polyvinyl esters,
polyvinyl ketones, polyvinylidene halides, polyacrylonitriles, copolymers of
vinyl monomers with each other and olefins, and combinations thereof.
- 20 3. The medical electrical lead of claim 2 wherein the polymer is
selected from the group of polyurethanes, silicones, or combinations
thereof.
- 25 4. The medical electrical lead of claim 1 wherein the anti-
inflammatory agent is a glucocorticosteroid.
5. The medical electrical lead of claim 4 wherein the
glucocorticosteroid is selected from the group of cortisol, cortisone,
30 fludrocortisone, Prednisone, Prednisolone, 6 α -methylprednisolone,
triamcinolone, betamethasone, dexamethasone, beclomethasone,

aclomethasone, amcinonide, clebethasol, clocortolone, derivatives thereof, and salts thereof.

6. The medical electrical lead of claim 5 wherein the
5 glucocorticosteroid is dexamethasone, a derivative thereof, or a salt thereof.

7. The medical electrical lead of claim 1 wherein the anti-inflammatory agent is coated onto the tissue-contacting surface.

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8. The medical electrical lead of claim 1 wherein the tissue-contacting surface comprises an anti-inflammatory agent incorporated into a polymeric overcoating.

15 9. The medical electrical lead of claim 1 wherein the anti-inflammatory agent is impregnated into the polymer of the tissue-contacting surface.

10. The medical electrical lead of claim 1 wherein the anti-inflammatory agent is covalently bonded to the polymer of the tissue-contacting surface.

11. The medical electrical lead of claim 1 wherein the tissue-contacting surface further includes heparin.

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12. A medical electrical lead comprising:
an elongated insulative lead body having a tissue-contacting surface, a proximal end, and a distal end;
an elongated conductor having a proximal end and a distal end,
30 mounted within the insulative lead body; and
an electrode coupled to the distal end of the electrical conductor for making electrical contact with bodily tissue;

wherein the tissue-contacting surface of the insulative lead body consists essentially of a nonporous polymer in intimate contact with a steroidal anti-inflammatory agent.

5 13. An indwelling catheter comprising:

an elongate body having a proximal end, a distal end, a tissue-contacting surface, and at least one interior lumen therethrough; and
an external fitting coupled to the proximal end;

wherein the tissue-contacting surface of the elongate body comprises a
10 polymer in intimate contact with a steroidal anti-inflammatory agent.

14. The indwelling catheter of claim 13 further comprising one or more helical coils formed in the elongate body between the proximal and distal ends.

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15. The indwelling catheter of claim 13 wherein the polymer is selected from the group of polyurethanes, silicones, polyamides, polyimides, polycarbonates, polyethers, polyesters, polyvinyl aromatics, polytetrafluoroethylenes, polyolefins, acrylic polymers or copolymers,
20 vinyl halide polymers or copolymers, polyvinyl ethers, polyvinyl esters, polyvinyl ketones, polyvinylidene halides, polyacrylonitriles, copolymers of vinyl monomers with each other and olefins, and combinations thereof.

16. The indwelling catheter of claim 15 wherein the polymer is
25 selected from the group of polyurethanes, silicones, or combinations thereof.

17. The indwelling catheter of claim 13 wherein the anti-inflammatory agent is a glucocorticosteroid.

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18. The indwelling catheter of claim 17 wherein the glucocorticosteroid is selected from the group of cortisol, cortisone,

fludrocortisone, Prednisone, Prednisolone, 6 α -methylprednisolone, triamcinolone, betamethasone, dexamethasone, beclomethasone, aclo methasone, amcinonide, cleb ethasol, clocortolone, derivatives thereof, and salts thereof.

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19. The indwelling catheter of claim 18 wherein the glucocorticosteroid is dexamethasone, a derivative thereof, or a salt thereof.

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20. The indwelling catheter of claim 13 wherein the anti-inflammatory agent is coated onto the tissue-contacting surface.

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21. The indwelling catheter of claim 13 wherein the tissue-contacting surface comprises an anti-inflammatory agent incorporated into a polymeric overcoating.

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22. The indwelling catheter of claim 13 wherein the anti-inflammatory agent is impregnated into the polymer of the tissue-contacting surface.

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23. The indwelling catheter of claim 13 wherein the anti-inflammatory agent is covalently bonded to the polymer of the tissue-contacting surface.

24. The indwelling catheter of claim 13 wherein the tissue-contacting surface further includes heparin.

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25. An indwelling catheter comprising:
an elongate body having a proximal end, a distal end, a tissue-contacting surface, and at least one interior lumen therethrough; and
an external fitting coupled to the proximal end;

wherein the tissue-contacting surface of the elongate body consists essentially of a nonporous polymer in intimate contact with a steroidal anti-inflammatory agent.

- 5 26. A method of modulating tissue encapsulation of a medical electrical lead comprising implanting the lead into a patient, wherein the medical electrical lead comprises:

an elongated insulative lead body having a tissue-contacting surface, a proximal end, and a distal end;

- 10 an elongated conductor having a proximal end and a distal end, mounted within the insulative lead body; and

an electrode coupled to the distal end of the electrical conductor for making electrical contact with bodily tissue;

- wherein the tissue-contacting surface of the insulative lead body
15 comprises a polymer in intimate contact with a steroidal anti-inflammatory agent.

27. A method of modulating tissue encapsulation of an indwelling catheter comprising implanting the indwelling catheter into a patient,
20 wherein the indwelling catheter comprises:

an elongate body having a proximal end, a distal end, a tissue-contacting surface, and at least one interior lumen therethrough; and

an external fitting coupled to the proximal end;

- wherein the tissue-contacting surface of the elongate body comprises a
25 polymer in intimate contact with a steroidal anti-inflammatory agent.

28. A method of modulating degradation of a medical electrical lead comprising implanting the lead into a patient, wherein the medical electrical lead comprises:

- 30 an elongated insulative lead body having a tissue-contacting surface, a proximal end, and a distal end;

an elongated conductor having a proximal end and a distal end,
mounted within the insulative lead body; and

an electrode coupled to the distal end of the electrical conductor
for making electrical contact with bodily tissue;

- 5 wherein the tissue-contacting surface of the insulative lead body
comprises a polymer in intimate contact with a steroidal anti-
inflammatory agent.

29. A method of modulating degradation of an indwelling catheter
10 comprising implanting the indwelling catheter into a patient, wherein the
indwelling catheter comprises:

an elongate body having a proximal end, a distal end, a tissue-
contacting surface, and at least one interior lumen therethrough; and

an external fitting coupled to the proximal end;

- 15 wherein the tissue-contacting surface of the elongate body comprises a
polymer in intimate contact with a steroidal anti-inflammatory agent.

30. A method of making a medical electrical lead comprising:

- 20 providing an elongated insulative lead body having a tissue-
contacting surface, a proximal end, and a distal end; wherein the tissue-
contacting surface comprises a polymer in intimate contact with a
steroidal anti-inflammatory agent;

providing an elongated conductor having a proximal end and a
distal end;

- 25 mounting the elongated conductor within the insulative lead body;
and

coupling an electrode to the distal end of the electrical conductor
for making electrical contact with bodily tissue.

- 30 31. The method of claim 30 wherein the step of providing an
elongated insulative lead body comprises blending a steroidal anti-

inflammatory agent with a polymer and forming a tissue-contacting surface.

32. The method of claim 30 wherein the step of providing an
5 elongated insulative lead body comprises coating a steroidal anti-inflammatory agent onto the tissue-contacting surface of the lead body.

33. A method of making an indwelling catheter comprising:
providing an elongate body having a proximal end, a distal end, a
10 tissue-contacting surface, and at least one interior lumen therethrough;
wherein the tissue-contacting surface comprises a polymer in intimate contact with a steroidal anti-inflammatory agent; and
coupling an external fitting to the proximal end of the elongate
body.

15 34. The method of claim 33 wherein the step of providing an elongate body comprises blending a steroidal anti-inflammatory agent with a polymer and forming a tissue-contacting surface.

20 35. The method of claim 30 wherein the step of providing an elongate body comprises coating a steroidal anti-inflammatory agent onto the tissue-contacting surface of the elongate body.

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